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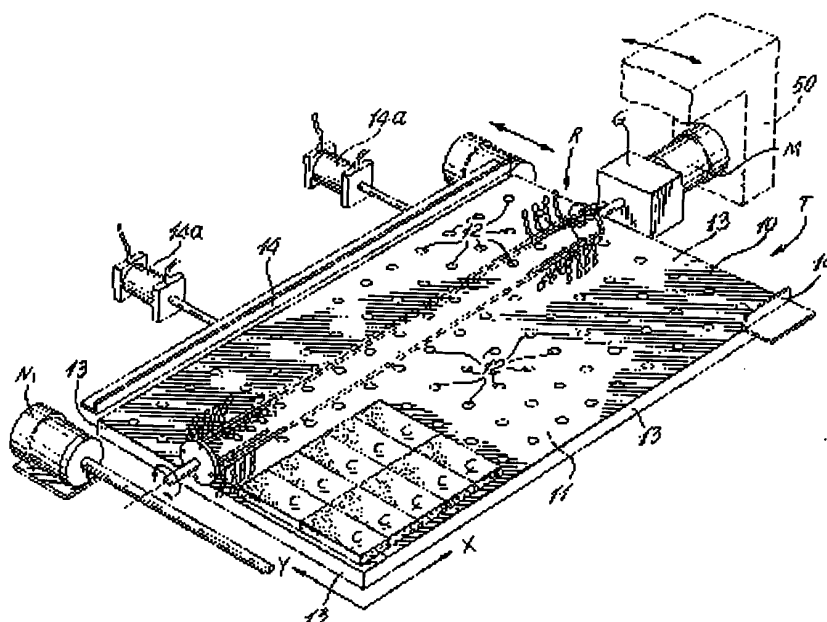
(12) Patent Application:

(11) CA 2343338

(54) APPARATUS FOR ROUGHING SURFACES OF CONCRETE CASTED BLOCKS

(54) DISPOSITIF PERMETTANT DE DEGROSSIR LES SURFACES DE BLOCS DE  
BETON COULE

Representative Drawing:



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### ABSTRACT:

An apparatus and method for roughing surfaces of concrete casted blocks are provided. A horizontally disposed surface roughing device, having impacting elements secured thereto, is driven to impact on blocks supported thereunder on a support table. The support table has a

flat support upper surface. Block tilt support pins project from the upper surface at predetermined locations for supporting some of the blocks tilted at a predetermined angle. The block tilt support pins are displaceable from a retracted position below the upper surface to a projecting block tilting position above the upper surface. A displacement mechanism imparts translationary displacement between the impacting elements and the support table to abrade the blocks.

CLAIMS: [Show all claims](#)

\*\*\* Note: Data on abstracts and claims is shown in the official language in which it was submitted.

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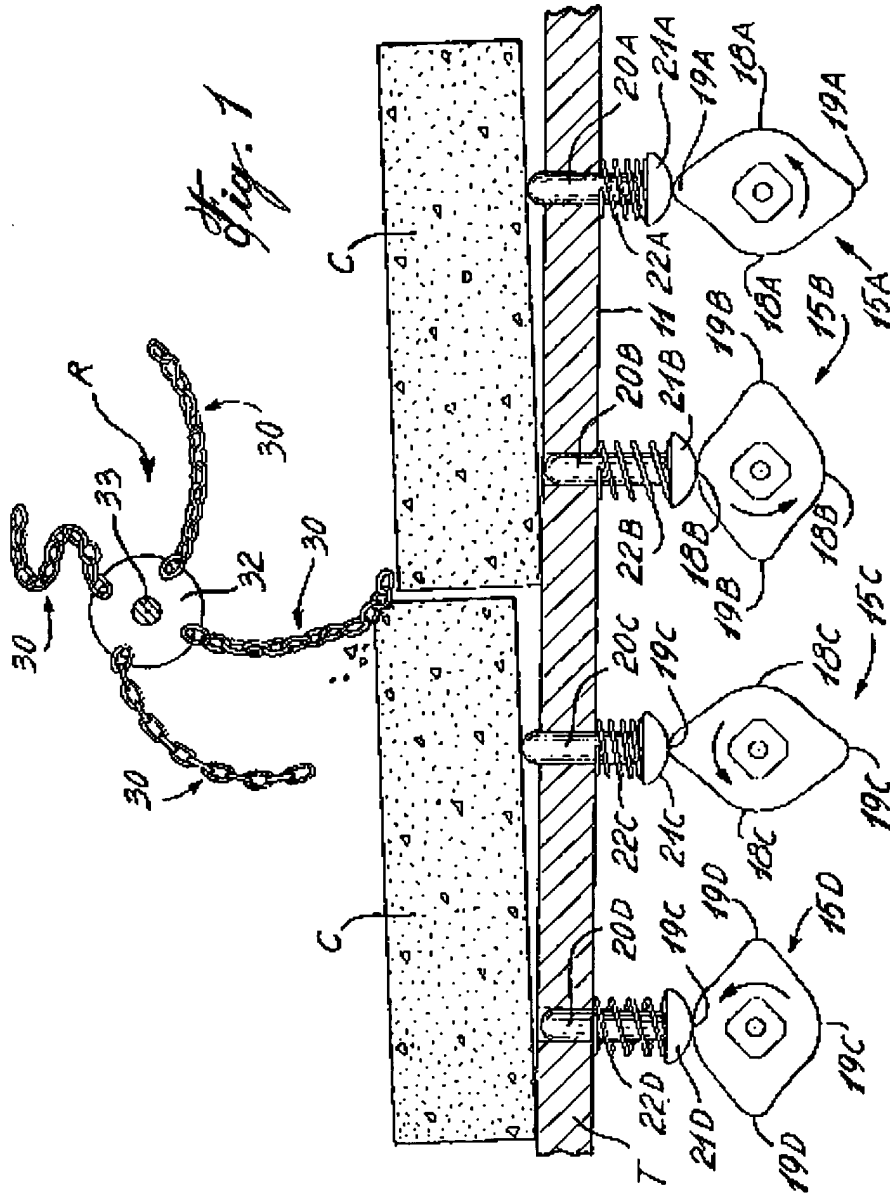
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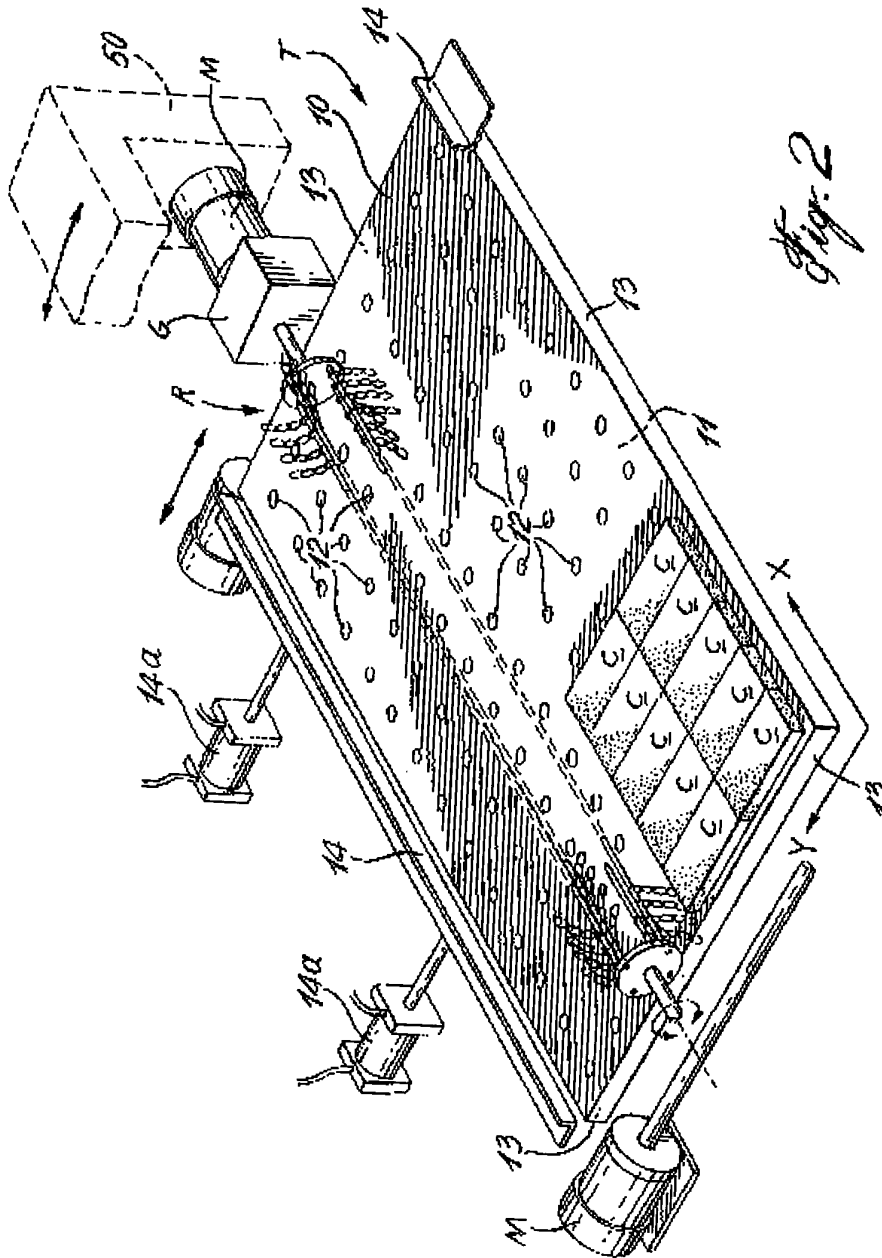
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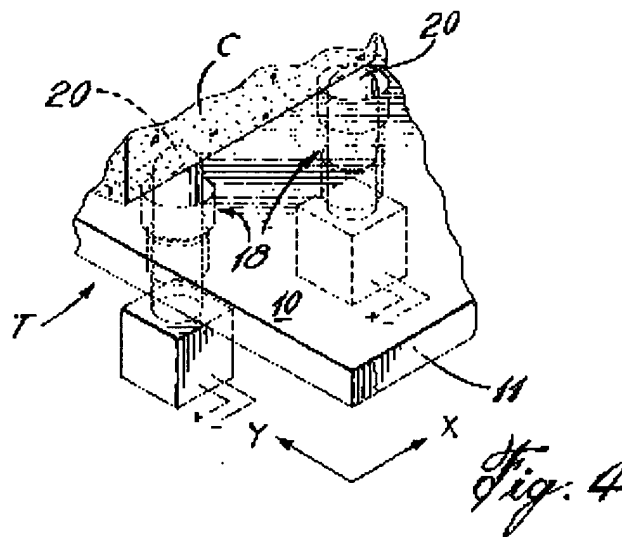
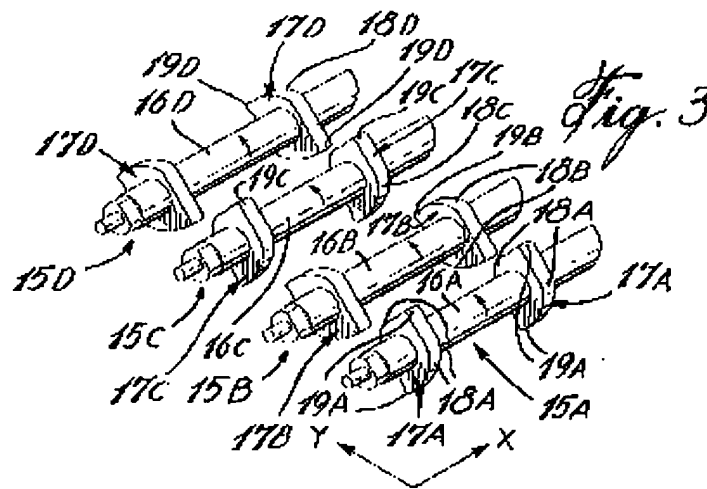
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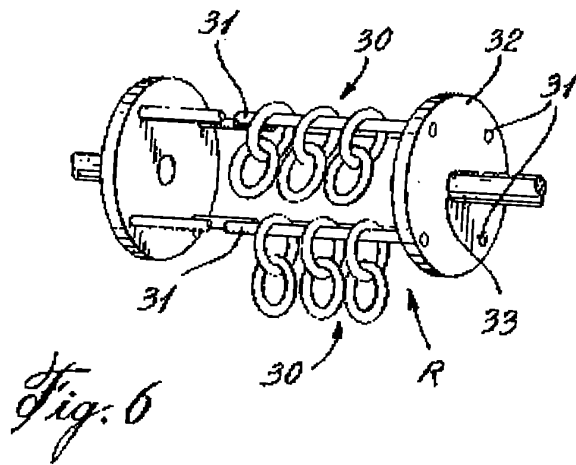
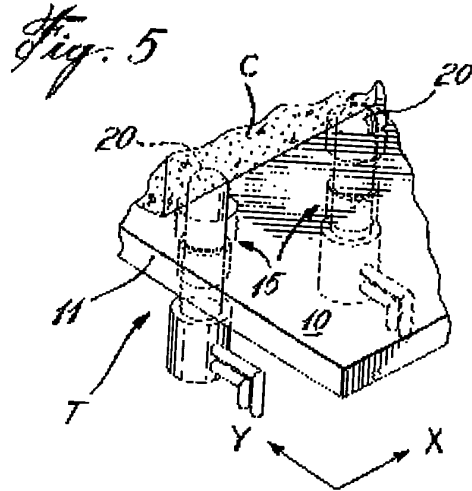




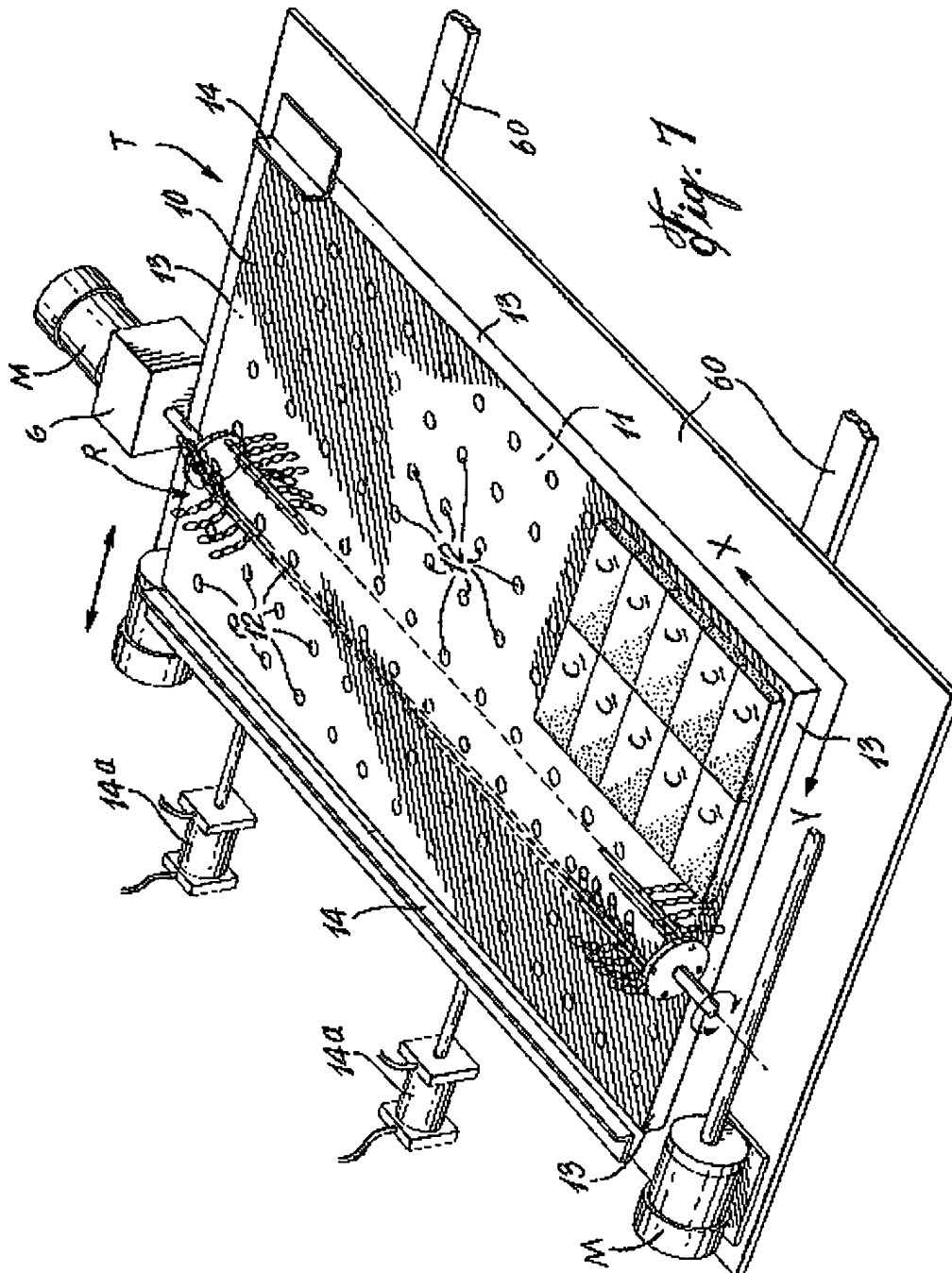
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**Patent Document Number 2343338 :****APPARATUS FOR ROUGHING SURFACES OF CONCRETE CASTED BLOCKS****DISPOSITIF PERMETTANT DE DEGROSSIR LES SURFACES DE BLOCS DE  
BETON COULE**

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## CLAIMS:

### CLAIMS:

1. ~An apparatus for roughing surfaces of concrete casted blocks, said apparatus comprising a horizontally disposed surface roughing device having a plurality of impacting elements secured thereto and driven for impacting on a plurality of said blocks supported thereunder on a support table, said support table having a flat support upper surface, block tilt support means projectable from said upper surface at predetermined locations for supporting at least some of said plurality of said blocks tilted at a predetermined angle, means to displace said block tilt support means from a retracted position below said upper surface to a projecting block tilting position above said upper surface, and displacements means to impart translationary displacement between said impacting elements and said support table to abrade said blocks.
2. ~An apparatus as claimed in Claim 1, wherein said concrete casted blocks are one of bricks, paving stones, wall retaining blocks or masonry stones.
3. ~An apparatus as claimed in Claim 1, wherein said surface roughing device is an elongated impact rotor, said rotor being supported horizontally and having a drive shaft at one end thereof, a motor being connected to said drive shaft to impart axial rotation to said rotor about the central longitudinal axis thereof, and said plurality of impacting elements being secured along a working section of said rotor, said impacting elements being flexible and constructed of material



having a hardness greater than that of said concrete, said impacting elements being dimensioned to abrade or chip said concrete blocks when impacted thereon by rotation of said drive shaft.

4. ~An apparatus as claimed in Claim 3, wherein said motor is a variable speed electric motor.

5. An apparatus as claimed in Claim 1, wherein said impacting elements are chain link sections.

6. An apparatus as claimed in Claim 5, wherein said chain link sections are secured to one or more support bars connected between a pair of bar attachment disks, said drive shaft being secured to one of said disk, the other of said disk having an idle shaft connected thereto.

7. An apparatus as claimed in Claim 6, wherein said chain link sections have at least two interconnected loop chain links, each said support bars extending through an end loop of a plurality of said chain link sections, said support bars being removably connected to said bar attachment disks.

8. An apparatus as claimed in Claim 3, wherein said motor is connected to said drive shaft through a reciprocating gear coupling to impart an axial reciprocating motion to said elongated impact rotor.

9. An apparatus as claimed in Claim 1, wherein said displacement means comprises a guide and drive mechanism for displacing said support table under said surface roughing device in a guided manner and a predetermined speed.

10. An apparatus as claimed in Claim 1, wherein said displacement means comprises a guide and drive mechanism for displacing said surface roughing device over said support table in a guided manner and at a predetermined speed.

11. An apparatus as claimed in Claim 1, wherein said support table is rotatably displaceable to a desired position in a horizontal plane by motorized drive means.

12. An apparatus as claimed in Claim 1, wherein said block tilt support means is constituted by a plurality of support pins displaceable between said retracted position and said projecting block tilting position.

13. An apparatus as claimed in Claim 1, wherein said table is provided with a plurality of holes, said block tilt support means being constituted by a plurality of support pins displaceable in associated ones of said holes between said retracted position and said projecting block tilting position.

14. An apparatus as claimed in Claim 13, wherein said means to displace said tilt support means comprises a plurality of cams secured to a plurality of rotatable shafts, each cam having an outer pin biasing surface in contact with a cam follower head of an associate one of said pins, said pins being held captive in its associated hole.

15. An apparatus as claimed in Claim 14, wherein said pins are spring biased against said cams by spring means.
16. An apparatus as claimed in Claim 15, wherein said spring means is a helical spring disposed about each said pins, said helical spring being secured at one end to a lower surface of said table and its other end abutting against a rear abutment surface of said cam follower head, whereby said cam follower head is engaged against said outer pin biasing surface of its associated cam.
17. An apparatus as claimed in Claim 14, wherein each said cams are shaped to define a pin retracted support surface and a pin projecting biasing surface, said pin projecting biasing surface being spaced from a central longitudinal axis of its associated rotatable shaft at a distance sufficient to cause its associated pin to project above said upper surface of said table to said projecting block tilting position.
18. An apparatus as claimed in Claim 17, wherein said holes in said table are disposed at predetermined intervals along straight parallel columns, there being a plurality of columns in said table, said rotatable shaft and cams secured thereto being supported under said table in alignment with said columns.
19. An apparatus as claimed in Claim 18, wherein said cams are displaceably secured to said rotatable shafts at predetermined positions.
20. An apparatus as claimed in Claim 17, wherein said cams are symmetrically shaped to define opposed pin retracted support surfaces and opposed transverse pin projecting biasing surfaces.
21. An apparatus as claimed in Claim 18, wherein said rotatable shafts are secured to a drive indexing motor by an interconnected linkage whereby said shaft may be rotated one quarter turn to project or retract said pins.
22. An apparatus as claimed in Claim 21, wherein a first group of shafts are connected to a first indexing motor and a second group is connected to a second indexing motor.
23. An apparatus as claimed in Claim 1, wherein said blocks are groups of blocks with some of said blocks in said groups being of a different size.
24. An apparatus as claimed in Claim 1, wherein there is further provided guide means for positioning said stones in side-by-side and end-to-end relationship over a predetermined area of said table.
25. A method of roughing surfaces of concrete carted blocks comprising the steps of:
  - (i) placing a plurality of said blocks on a flat top surface of a support table and at a predetermined orientation in side-by-side and end-to-end relationship;
  - (ii) tilting predetermined one of said blocks on said support table to expose predetermined positions of said blocks;
  - (iii) axially rotating a horizontally disposed surface roughing device having a plurality of impacting elements secured thereto; and

(iv) causing relative displacement between said surface roughing device and said support table to roughen exposed surfaces of said blocks.

26. A method as claimed in Claim 25, wherein said step (ii) comprises providing said table with a plurality of rows of equidistantly spaced holes, supporting a pin in said hole in a retracted position, and projecting predetermined ones of said pins to tilt said predetermined ones of said blocks.

27. A method as claimed in Claim 26, wherein said step of projecting said pins comprises rotating predetermined ones of a plurality of shafts having cams secured thereto and frictionally engagable with an associated one of said pins to eject and retract said pins.

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